

## § 21.107

100 percent up to and including 250 percent of the authorized bandwidth: At least 35 decibels;

(iii) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least  $43+10 \log^{10}$  (mean output power in watts) decibels, or 80 decibels, whichever is the lesser attenuation.

(2) When using transmissions employing digital modulation techniques (see § 21.122(b)) in situations other than those covered by subpart K of this part:

(i) For operating frequencies below 15 GHz, in any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 50 percent up to and including 250 percent of the authorized bandwidth: As specified by the following equation but in no event less than 50 decibels.  $A=35+0.8(P;\text{minus};50)+10 \log^{10} B$ . (Attenuation greater than 80 decibels is not required.)

where:

A=Attenuation (in decibels) below the mean output power level.

P=Percent removed from the carrier frequency.

B=Authorized bandwidth in MHz.

(ii) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least  $43+10 \log^{10}$  (mean output power in watts) decibels, or 80 decibels, whichever is the lesser attenuation.

(b) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in paragraph (a) of this section.

[44 FR 60534, Oct. 19, 1979, as amended at 46 FR 23450, Apr. 27, 1981; 52 FR 23550, June 23, 1987; 61 FR 26675, May 28, 1996; 65 FR 46617, July 31, 2000]

## § 21.107 Transmitter power.

(a) The power which a station will be permitted to use in these services will be the minimum required for satisfactory technical operation commensurate with the size of the area to be served and local conditions which affect radio transmission and reception. In cases of harmful interference, the

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Commission may, after notice and opportunity for hearing, order a change in the effective radiated power of a station.

(b) The EIRP of a transmitter station employed in this radio service shall not exceed the values shown in the following tabulation:

Frequency range (MHz)	Maximum allowable EIRP for a fixed station (Watts)
2,150 to 2,162 .....	<sup>1</sup> 2000
2,596 to 2,680 .....	<sup>1</sup> 2000

<sup>1</sup> When a Multipoint Distribution Service station uses a non-omnidirectional antenna EIRP up to 7943 Watts may be authorized pursuant to § 21.904(b) of this Part.

[44 FR 60534, Oct. 19, 1979, as amended at 49 FR 37775, Sept. 26, 1984; 52 FR 7140, Mar. 9, 1987; 52 FR 37783, Oct. 9, 1987; 54 FR 10328, Mar. 13, 1989; 54 FR 24905, June 12, 1989; 55 FR 46009, Oct. 31, 1990; 56 FR 57816, Nov. 14, 1991; 58 FR 49224, Sept. 22, 1993; 61 FR 26675, May 28, 1996]

## § 21.108 [Reserved]

## § 21.109 Antenna and antenna structures.

(a) In the event harmful interference is caused to the operation of other stations, the Commission may, after notice and opportunity for hearing, order changes to be made in the height, orientation, gain and radiation pattern of the antenna system.

(b) The Commission may require the replacement, at the licensee's expense, of any antenna system of a permanent fixed station operating at 2500 MHz or higher upon a showing that said antenna causes or is likely to cause interference to any other authorized or proposed station.

[44 FR 60534, Oct. 19, 1979, as amended at 52 FR 37783, Oct. 9, 1987; 61 FR 26675, May 28, 1996]

## § 21.110 Antenna polarization.

Stations operating in the radio services included in this part are not limited as to the type of polarization of the radiated signal, provided, however, that in the event interference in excess of permissible levels is caused to the operation of other stations the Commission may, after notice and opportunity for hearing, order the licensee